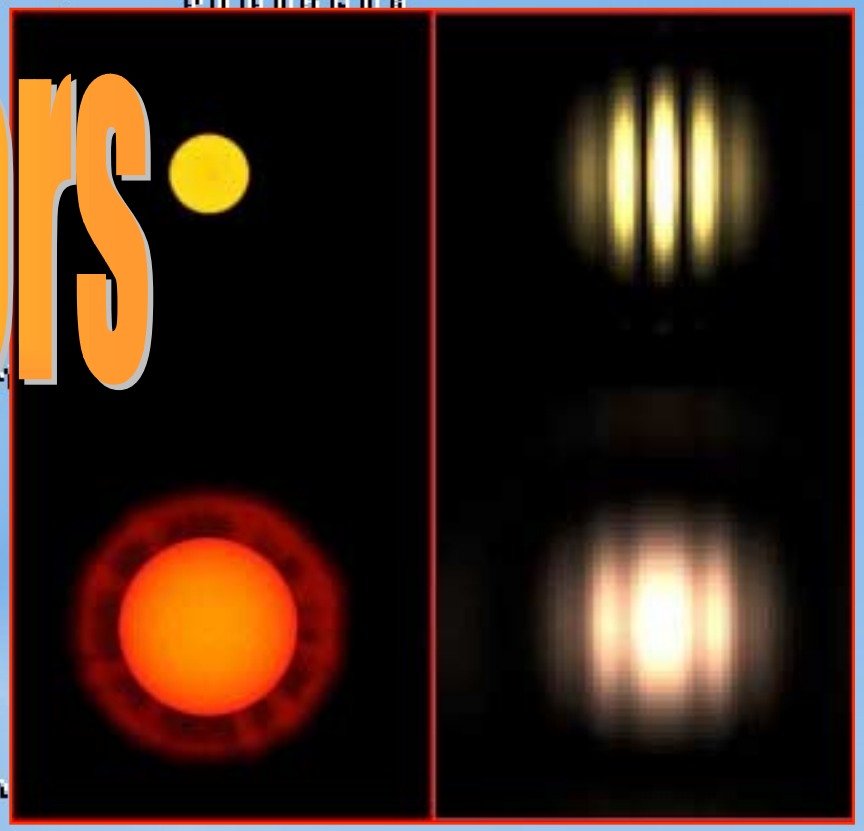
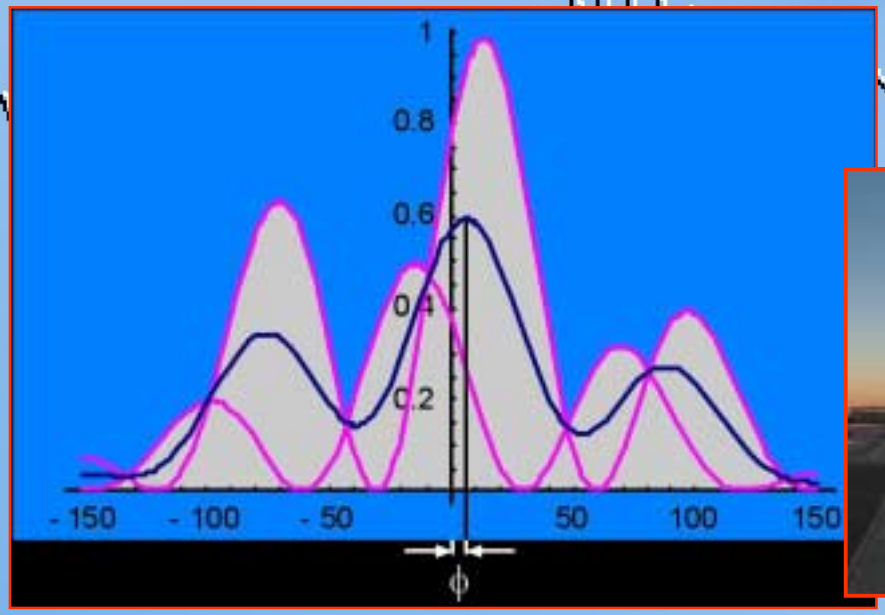
VLTI Calibrators



IAU Interferometry WG

Sydney, 21 July 2003



All in a nutshell

I. Percheron, M. Wittkowski, P. Ballester (ESO DMD), A. Richichi (VLTI)

VLTI Calibrators (List, Workshop material, Information)

http://www.eso.org/~arichich/download/vlticalibs-ws/

VLTI Tools (Visibility Calculator, Calibrator Selectio, Exposure Time Calc)

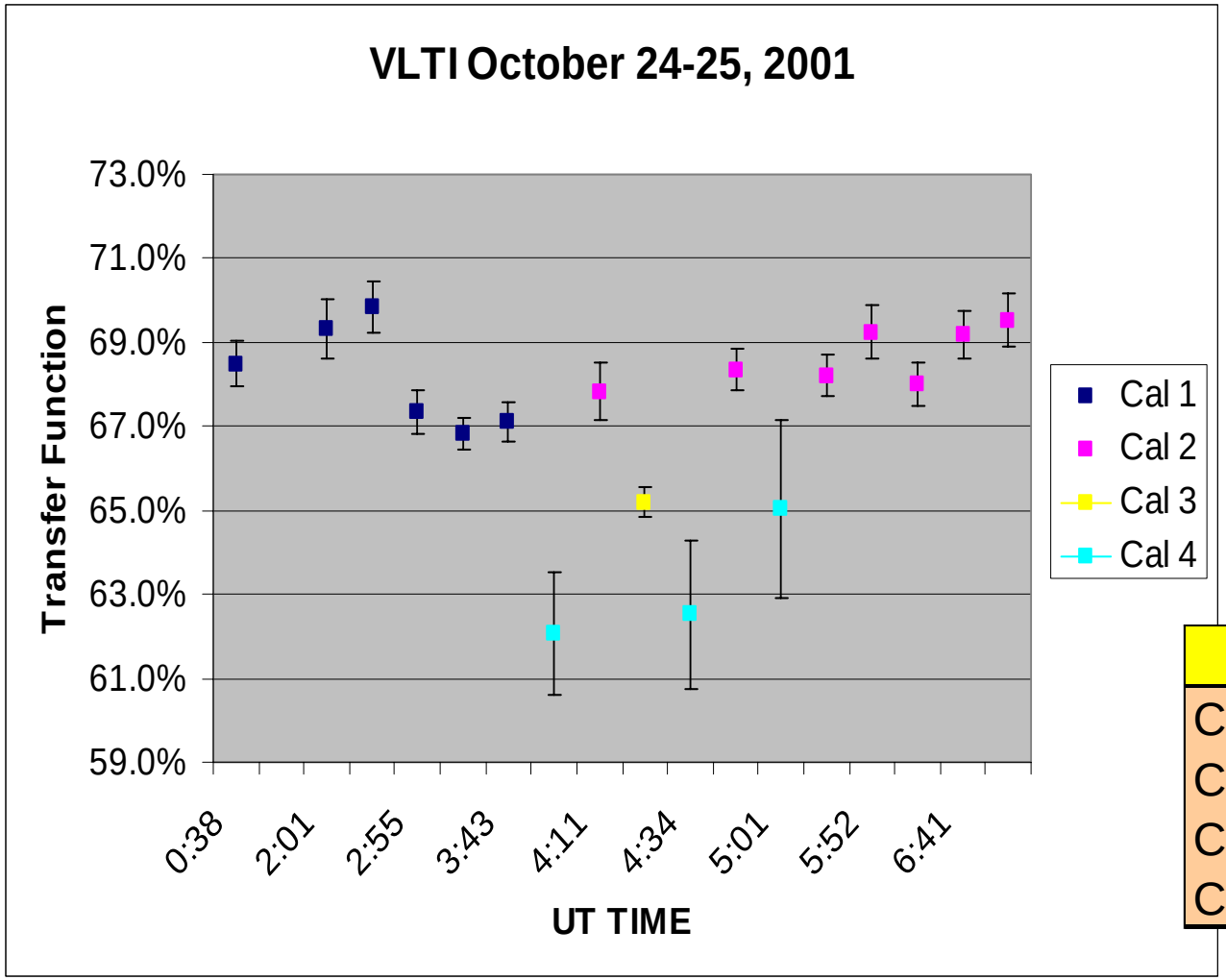
http://www.eso.org/observing/etc/

http://www.eso.org/observing/etc/preview.html

VLTI Web Page

http://http.hq.eso.org/projects/vlti/

Interferometry needs (good) calibrators!



Aver.	**67.3%**	**2.3%**
Cal 1 w.m	**67.7%**	**0.2%**
Cal 2 w.m.	**68.6%**	**0.2%**
Cal 3	**65.2%**	**0.4%**
Cal 4 w.m.	**62.8%**	**1.0%**

The response of an interferometer

$V_{m,1} = \alpha V_{o,1}$

$V_{m,2} = \alpha V_{o,2}$

α= Interferometric transfer function

if $V_{o,2}$ is known, then $\alpha = V_{m,2} / V_{o,2}$

$V_{o,1}$ can thus be derived

The factor α can vary with changes in the interferometer and its environment, and with atmospheric conditions. Therefore, it must be measured at the same time and under the same conditions as the object. The final accuracy cannot be better than the accuracy on α, which is in turn dependent on $V_{o,2}$.

Towards a VLTI Calibrator System

A Brief History

1. VLTI has high accuracy, long baselines, southern location: need for own calibrators identified. Workpackage set up with NEVEC beginning of 2001.
2. Invitation to partners. VLTI calibrators meetings.
3. Annual report of the ESO/NEVEC WP.
4. CHARM Catalogue created (not a calibrators list, but useful reference).
5. Presence at OHP meeting Summer 2001, IAU Working Group, exchanges also outside ESO community.

1st VLTI Calibrators Meeting

Leiden, 22 June 2001

Conclusions

1. Agreed to maintain informative collaboration, but each partner continues to pursue their objectives with their own means.
2. Tentatively agree to merge results into a common catalogue.
3. Request for formal agreements by some partners.

The CHARM Catalogue

Catalogue of High Angular Resolution Measurements

Richichi & Percheron A&A 386, 492 (2002)

Available at CDS, Vizir J/A+A/386/492

Summary

1. Collect angular measurements at high angular resolution by the techniques of Lunar Occultations, Long-Baseline interferometry. Also indirect estimates. A few sparse measurements by other methods.
2. Includes: angular diameters, binary stars, circumstellar components.
3. Designed for on-line use (based on Excel), Interferometry applications.

3248 entries for 2094 independent stars (2432/1625 in the A&A paper).

Distributed on CD-Rom (includes help, references, plots and computations)

New release planned for 2003 (will include VLTI measurements)

Note: the CDS version shows estimated diameters by default!

2nd VLTI Calibrators Meeting

Florence, 10-11 June 2002

D. Bonneau (JMMC), I. Percheron (NEVEC/MIDI/FRINGE), R. Petrov (AMBER/JMMC), A. Richichi (ESO), L. Testi (AMBER), M. Wittkowski (ESO)

Conclusions

1. MW will represent the ESO and the partners that participated in this discussion, at the round table on calibrators that is planned for SPIE2002 in August. ✓
2. AMBER clarifies its position wrt JMMC. LT will try to push for some AMBER manpower devoted to the calibrators needs.
3. At the next EuroInterferometry Meeting, a request will be discussed for a formal homogeneous agreement on the subject of calibrators between ESO and all other partners.
4. A format of the WEB page will be discussed and provided to DMD before August 2002 ✓
5. A student will work for 2 months at ESO under the supervision of AR to explore the possibility of deducing seeing/coherence parameters from the VINCI PA,PB signals ✓
6. Experiment on the effect of filtering VINCI data according to 0.3<seeing<0.8 (for example), or other quality filters. ✓
7. Study the criteria for optimal fitting of TF to a night of calibrators data ✓

3rd VLTI Calibrators Meeting

Garching, 30-31 January 2003

Objectives

- Present the work of ESO, both compilative and observational (VLTI).
- Get input from instrument teams for specific needs.
- Exchange of ideas with other interferometric groups.
- Provide a forum for prospective users.
- Present tools for proposal/OB preparation.
- Make a first list of VLTI calibrators public.

Format for a calibrators list

1. NAME
2. COORD
3. Proper Motions
4. Epoch
5. Primary/Secondary flag
6. Mag. Fields (V,R,J,H,K,L,M,N,Q) Empty when not available
7. Sp. Type
8. Diam. and Error (wavelength-independent)
9. Parameters to compute on-line a wavelength-dependent value of the diameter. Suggestions are: Teff, log g, z
10. Other useful values: V_sini (phase calibrators), V_rad (spectr. calibrators), parallax, mass
11. Instrument/mode flag. This flag will consist of several fields, each for an instrument/mode combination (Examples: AMBER-K-HR, MIDI-grism...). A calibrator will be good for all modes, unless some of these fields are flagged.
12. Link to a detailed file (for example, named after the source) with references and a history of changes done on the entries.

The VLTI calibrator list : background

- List of potential calibrator objects for VLTI observations
  - Siderostats (and UTs)
  - baselines from 8m to 140m
- Tools for the selection of the calibrators associated to the scientific target

  (see CALVIN demonstration)

The VLTI calibrator list : requirements

- Single object (or binary with large separation)
- No known (or very small) variability
- Bright object : K brighter than 3 (5)
- Spectral type
- No infrared excess, no peculiar spectrum …
- Known accurate diameter
- Some calibrators will be used with long baseline (>100m)

The VLTI calibrator list : input

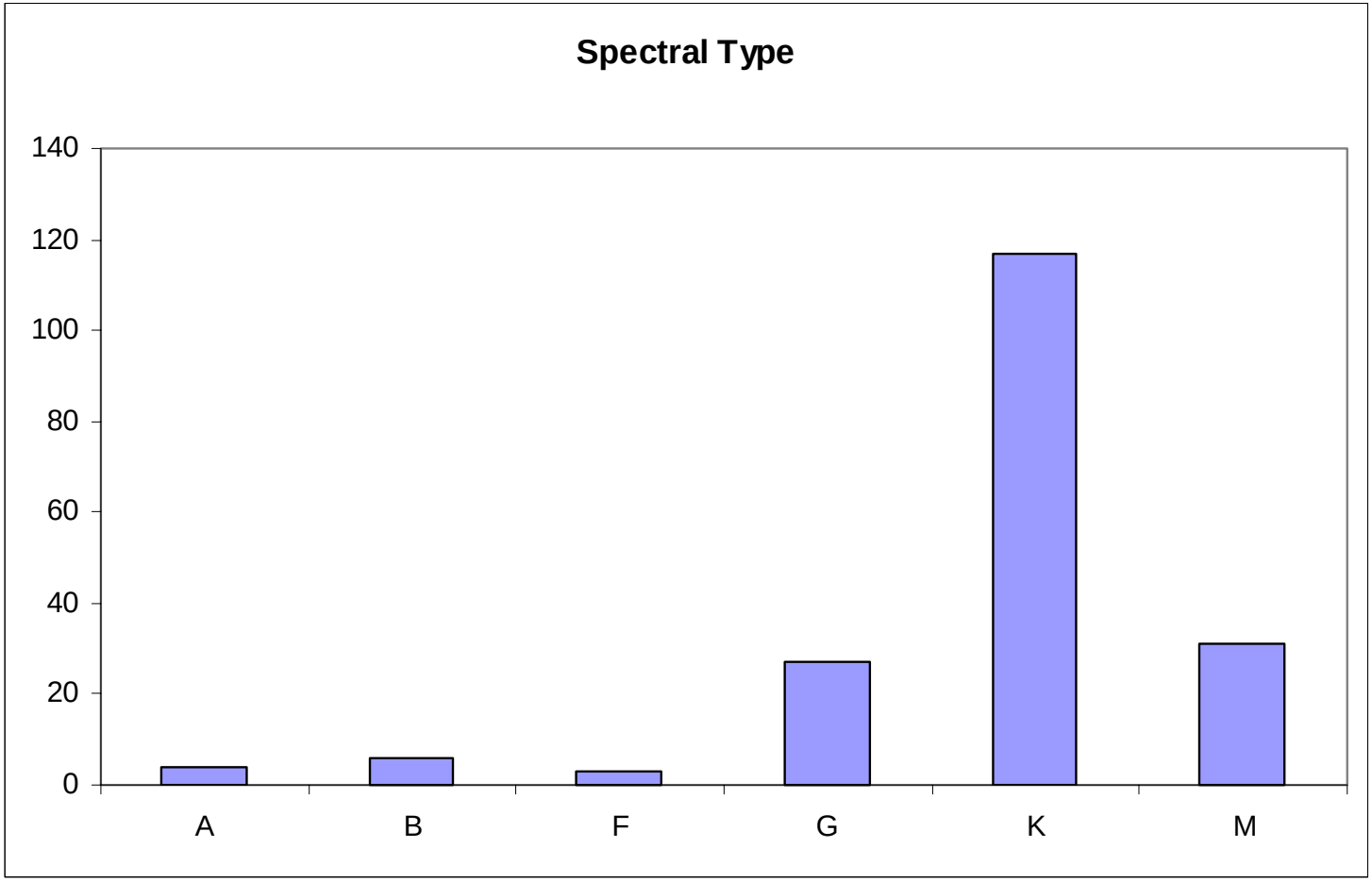
– CHARM (direct and indirect measurements)
– Interferometer lists
– Surveys (Hipparcos, Tycho …)

The VLTI calibrator list : contents

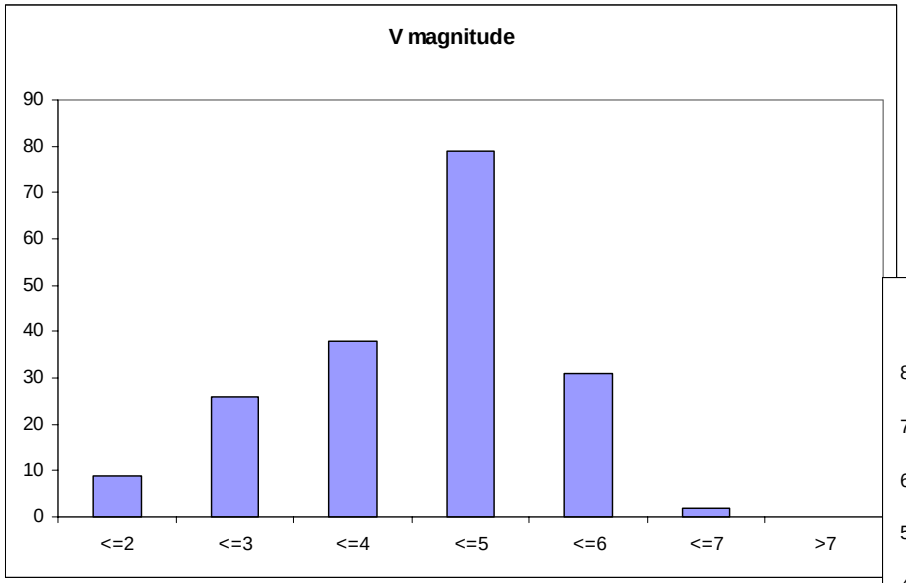
- It includes:
  - Objects fulfilling the requirements (QF=1)
  - Objects with small deviations from the requirements (QF=2)
  - Objects not following all the requirements but already observed as calibrators in the first few months of VLTI operations (QF=3)
- Total:

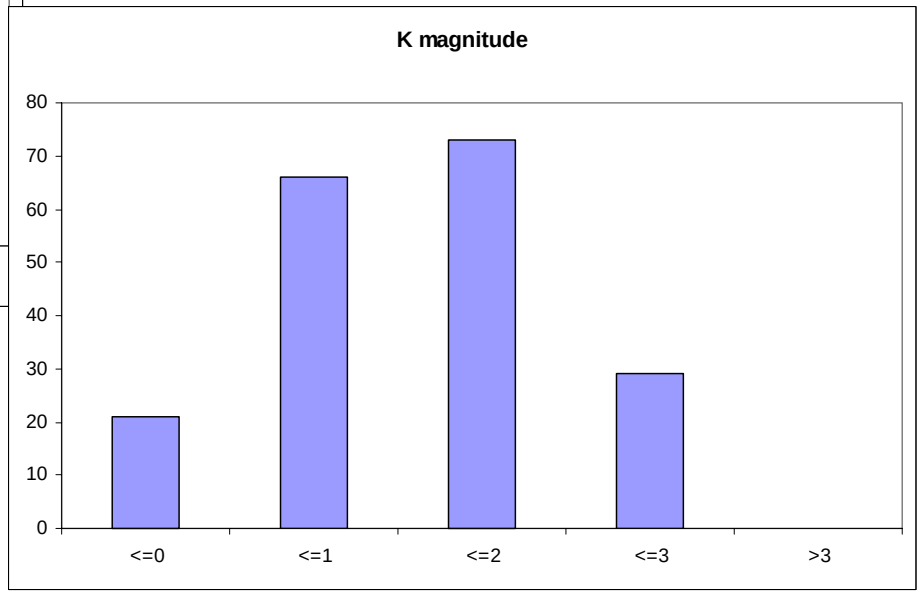
  593 potential VLTI calibrators (178 VINCI calibrators)
- Format (ASCII, free-format fields):
  - Name
  - Object coordinates
  - Magnitudes (B,V,K, and more)
  - Diameter, error, T_{eff} (+ model atmosphere parameters)
  - Quality flag (1 to 3)
  - Log file with history, special notes, etc

The VLTI calibrator list :
spectral types

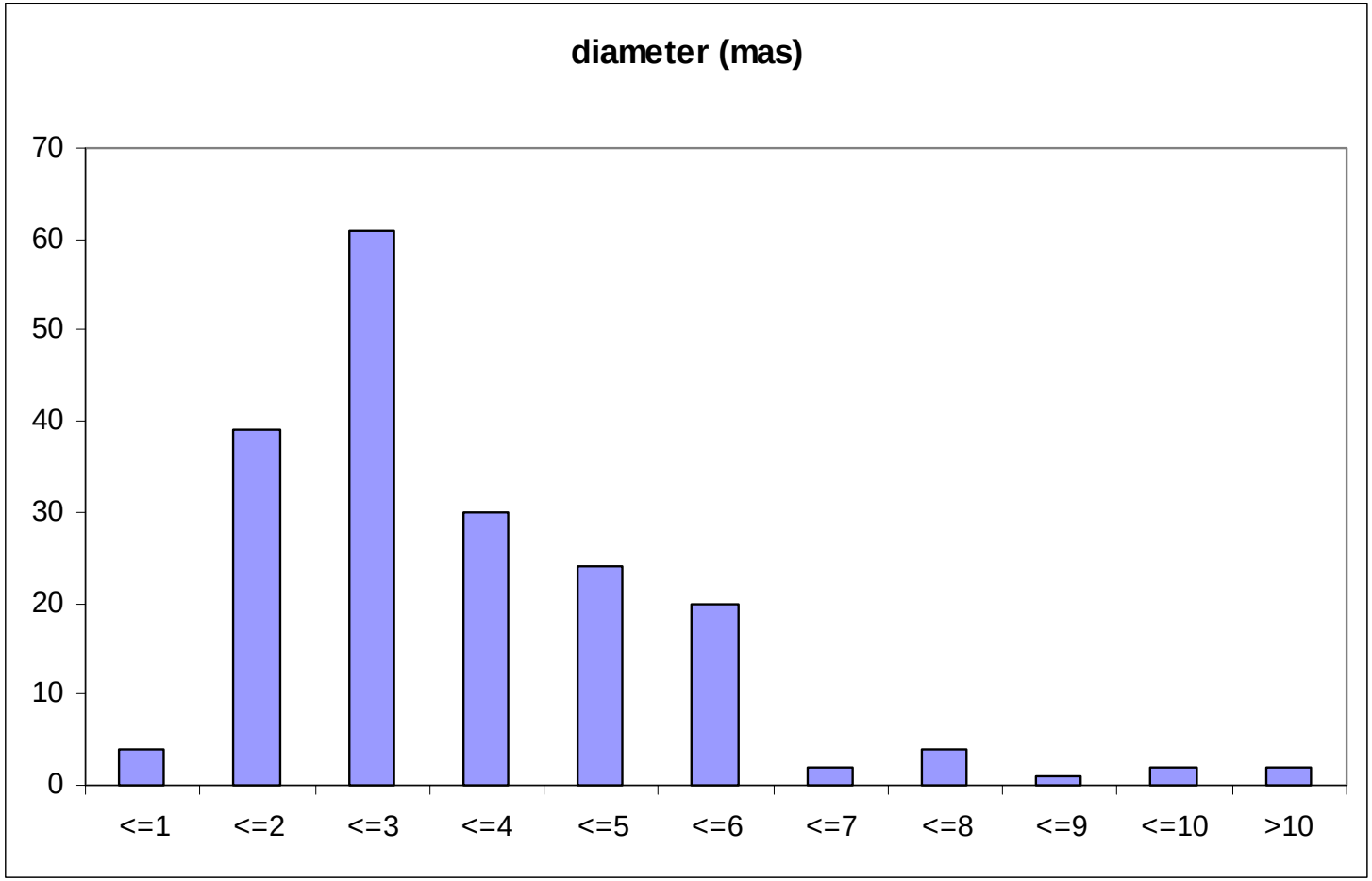


The VLTI calibrator list :
Magnitudes

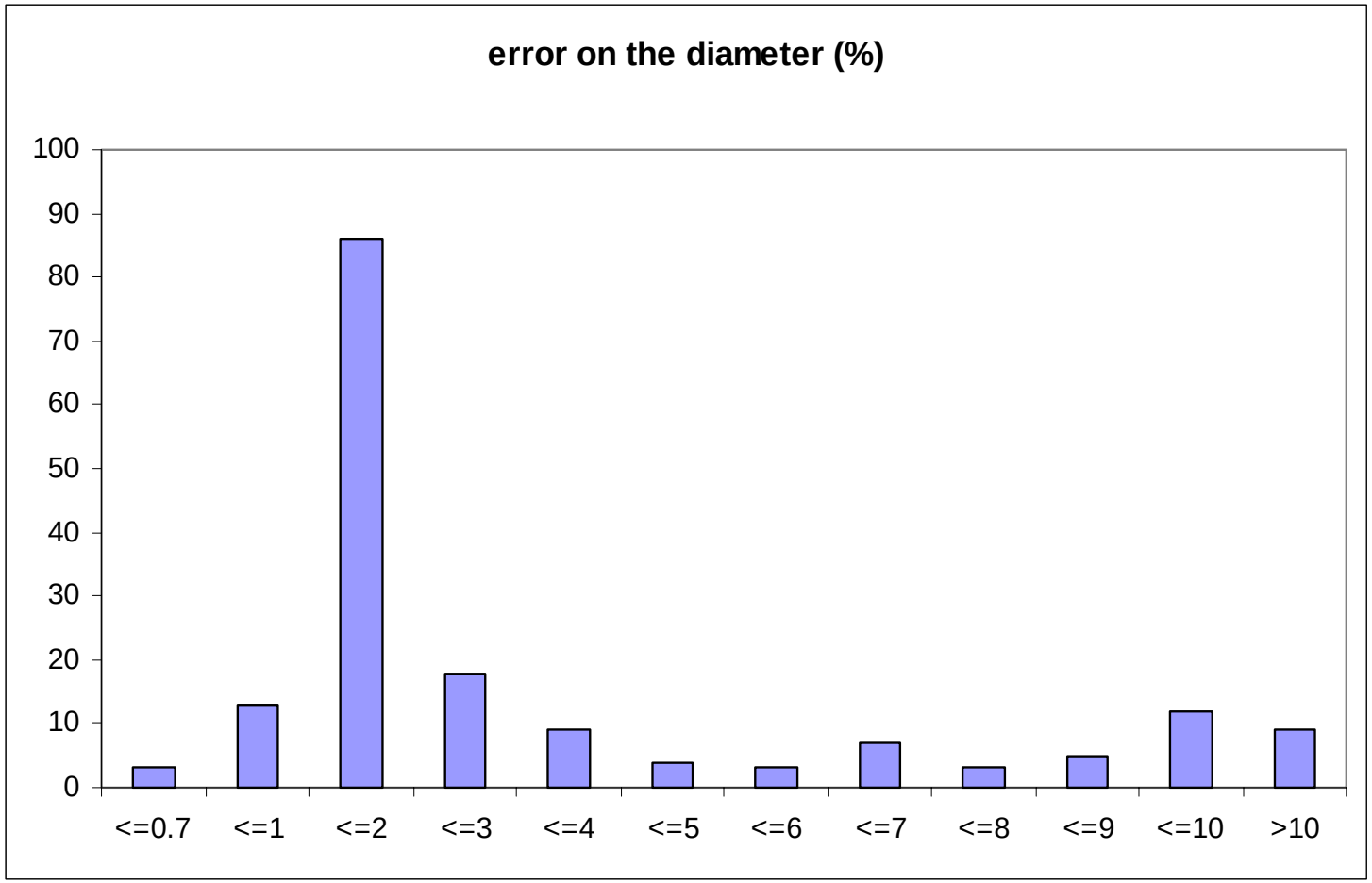




The VLTI calibrator list :
diameters

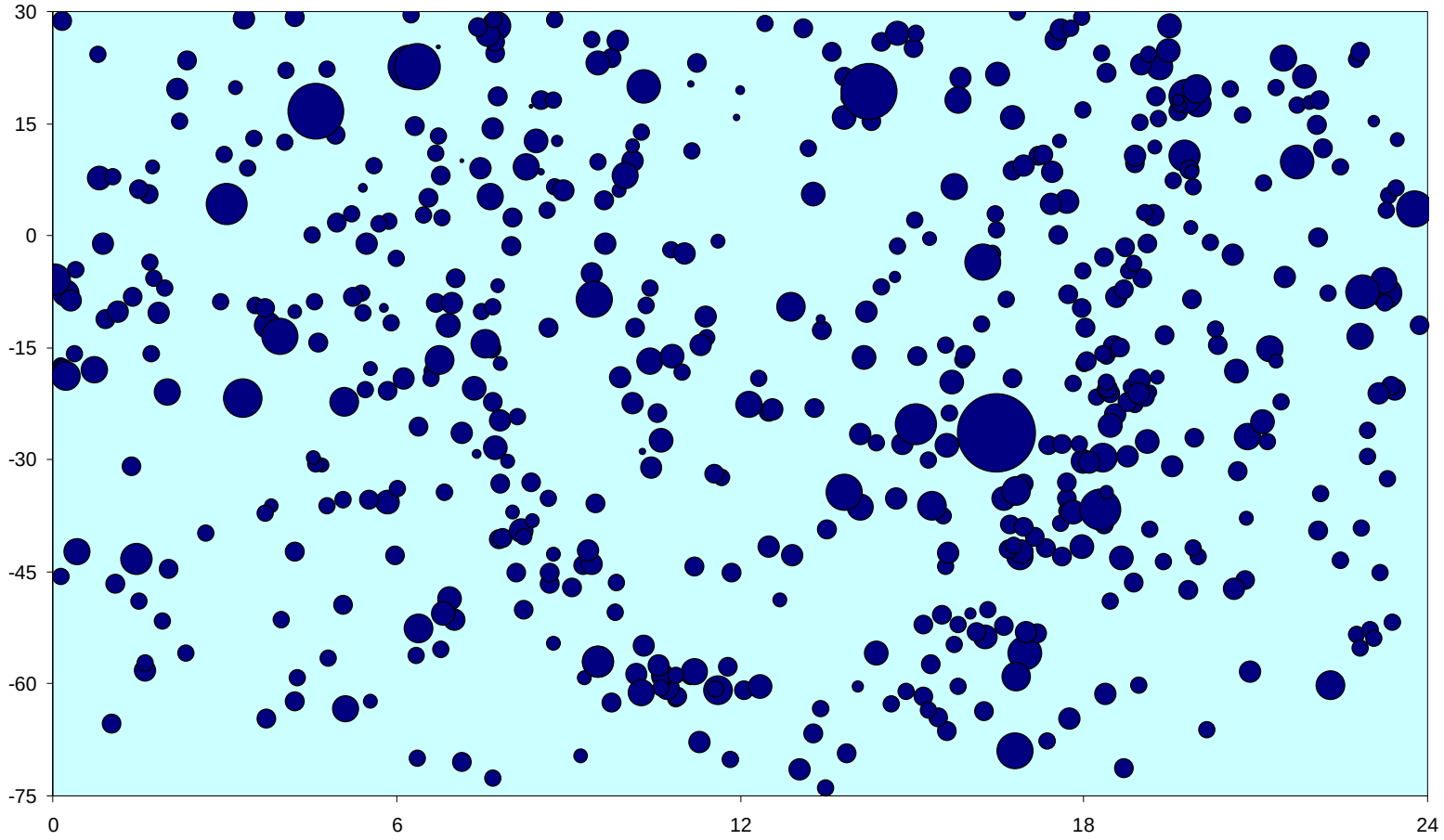


The VLTI calibrator list :
error on the diameters

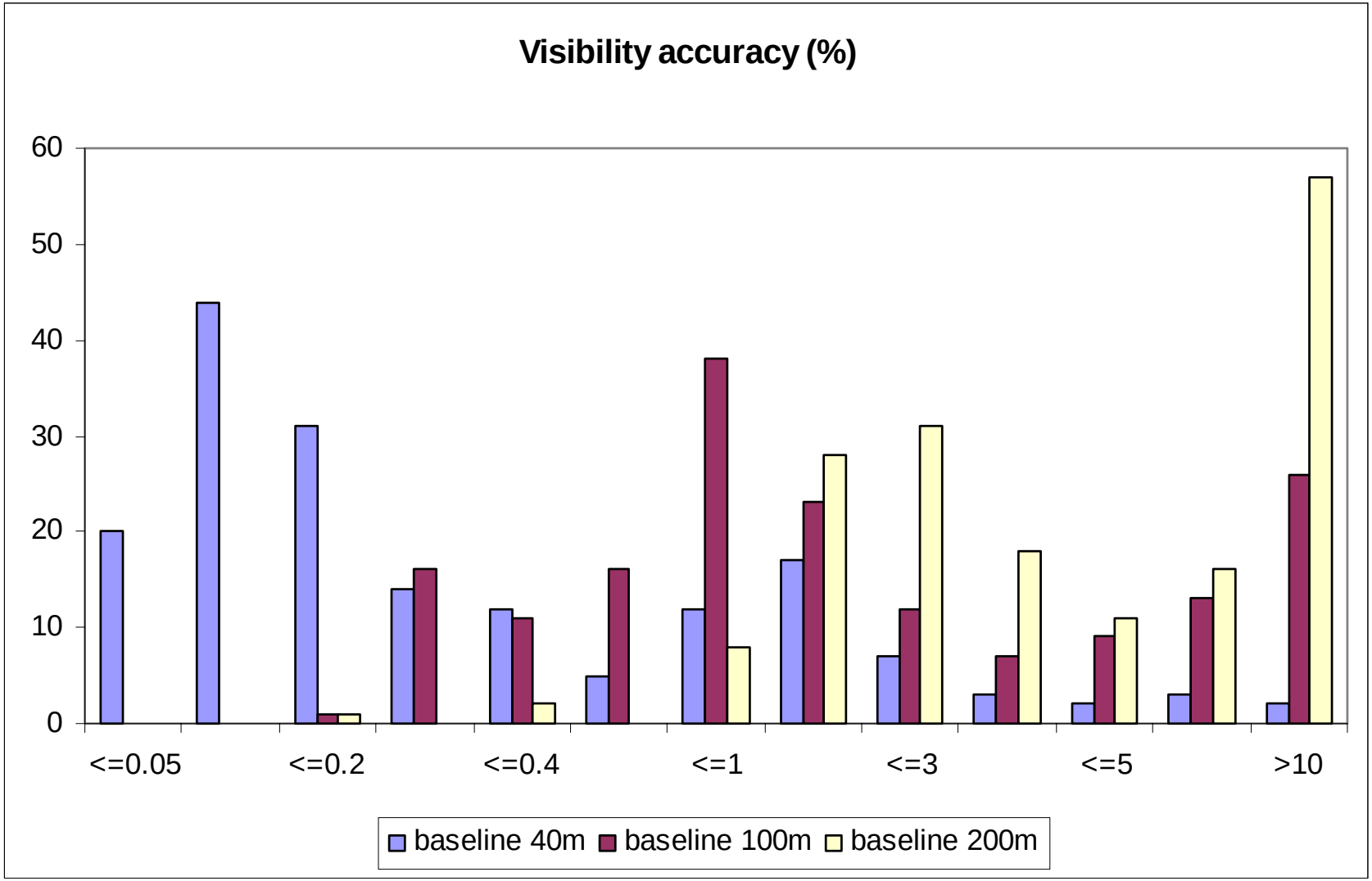


The VLTI Calibrator list :

sky distribution



The VLTI calibrator list :



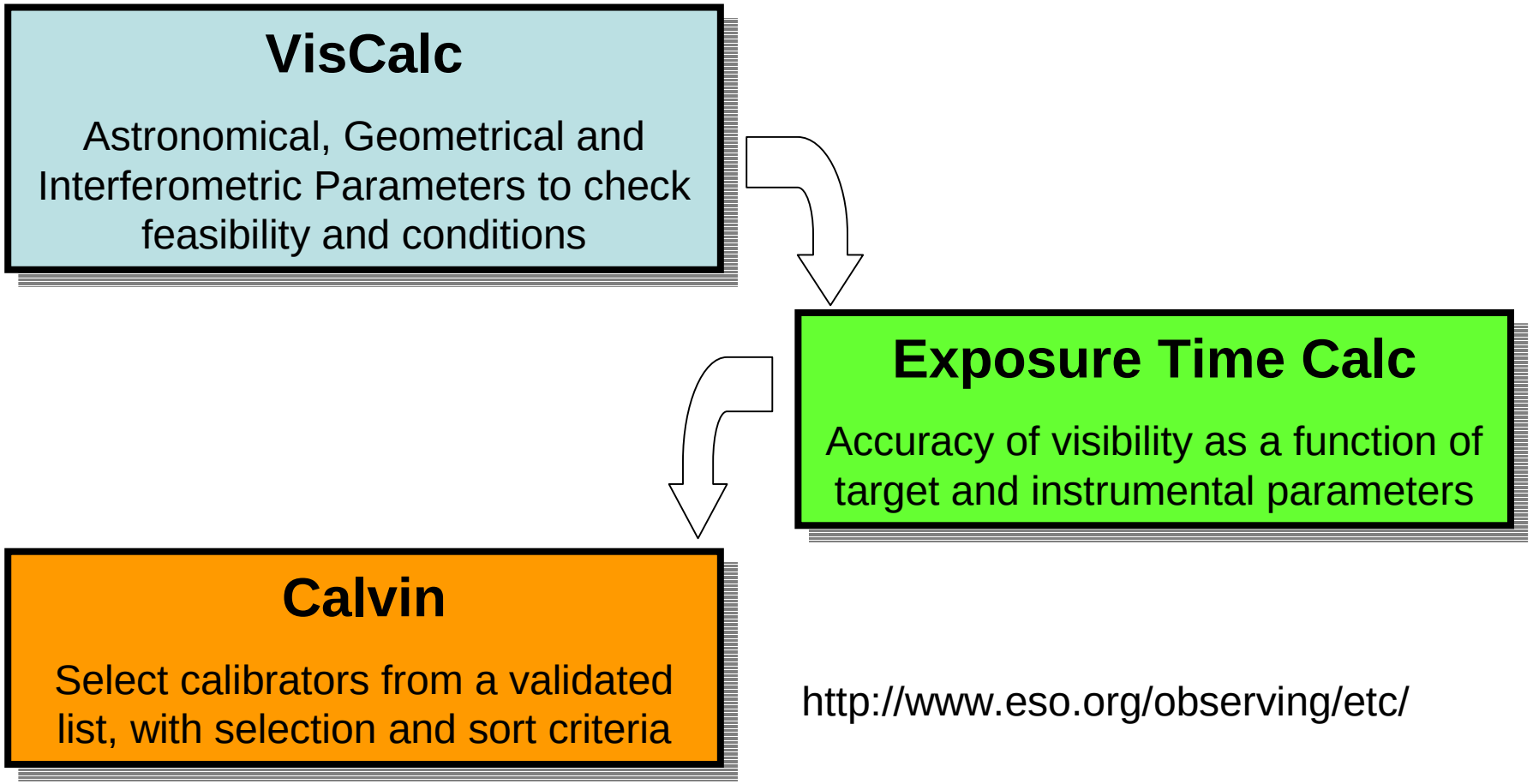
The VLTI calibrator list :
availability

- First Release: January 30, 2003
- Following updates :
  - Diameters and errors to be updated with VLTI measurements

The VLTI calibrators is publicly available, as well as used in CALVIN

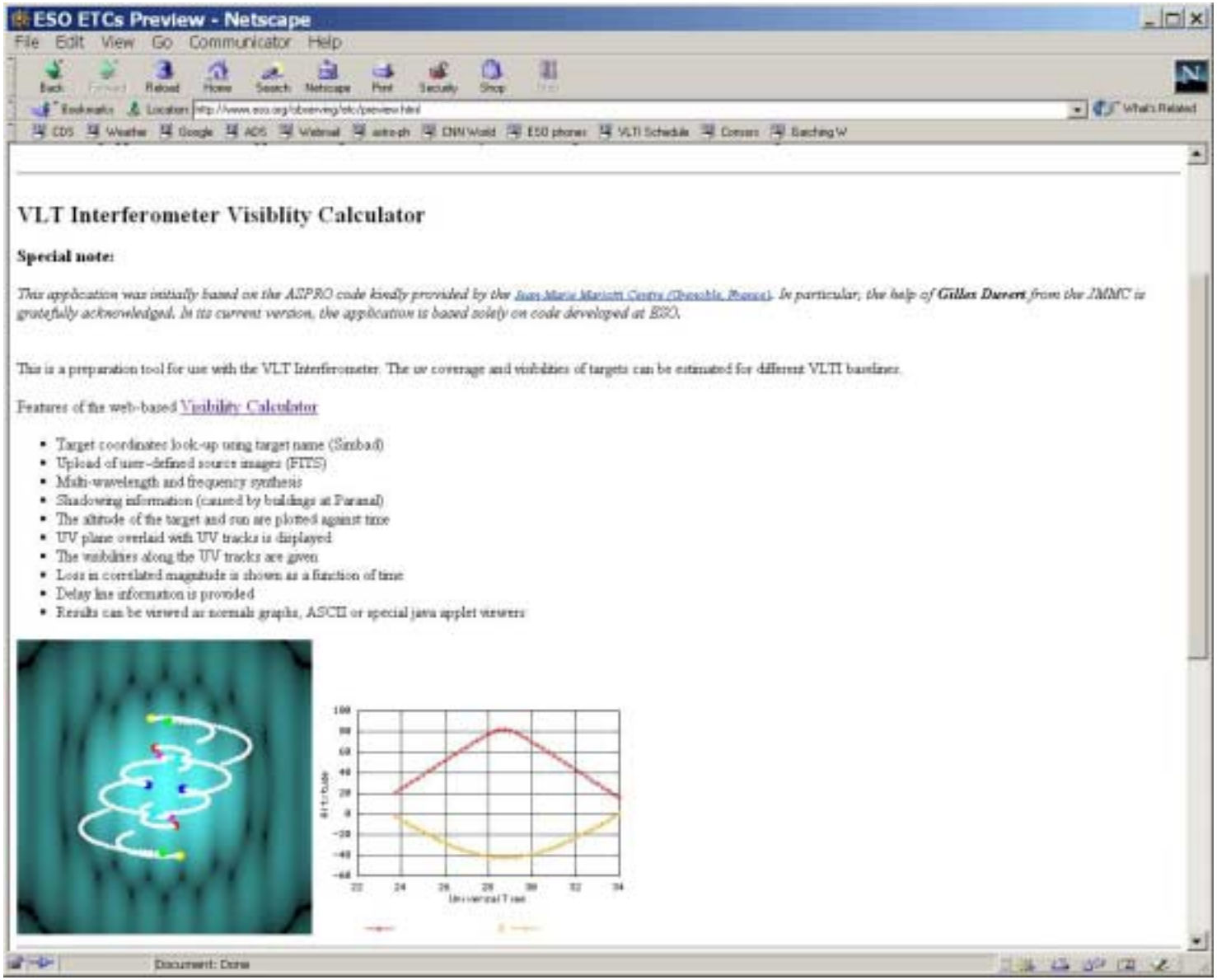
VLTI On-line Preparation Tools

Interferometry as a standard technique at ESO: proposals Phase I and Phase II



http://www.eso.org/observing/etc/

On-line Visibility Calculator: Viscalc



On-line Calibrators Selection: Calvin

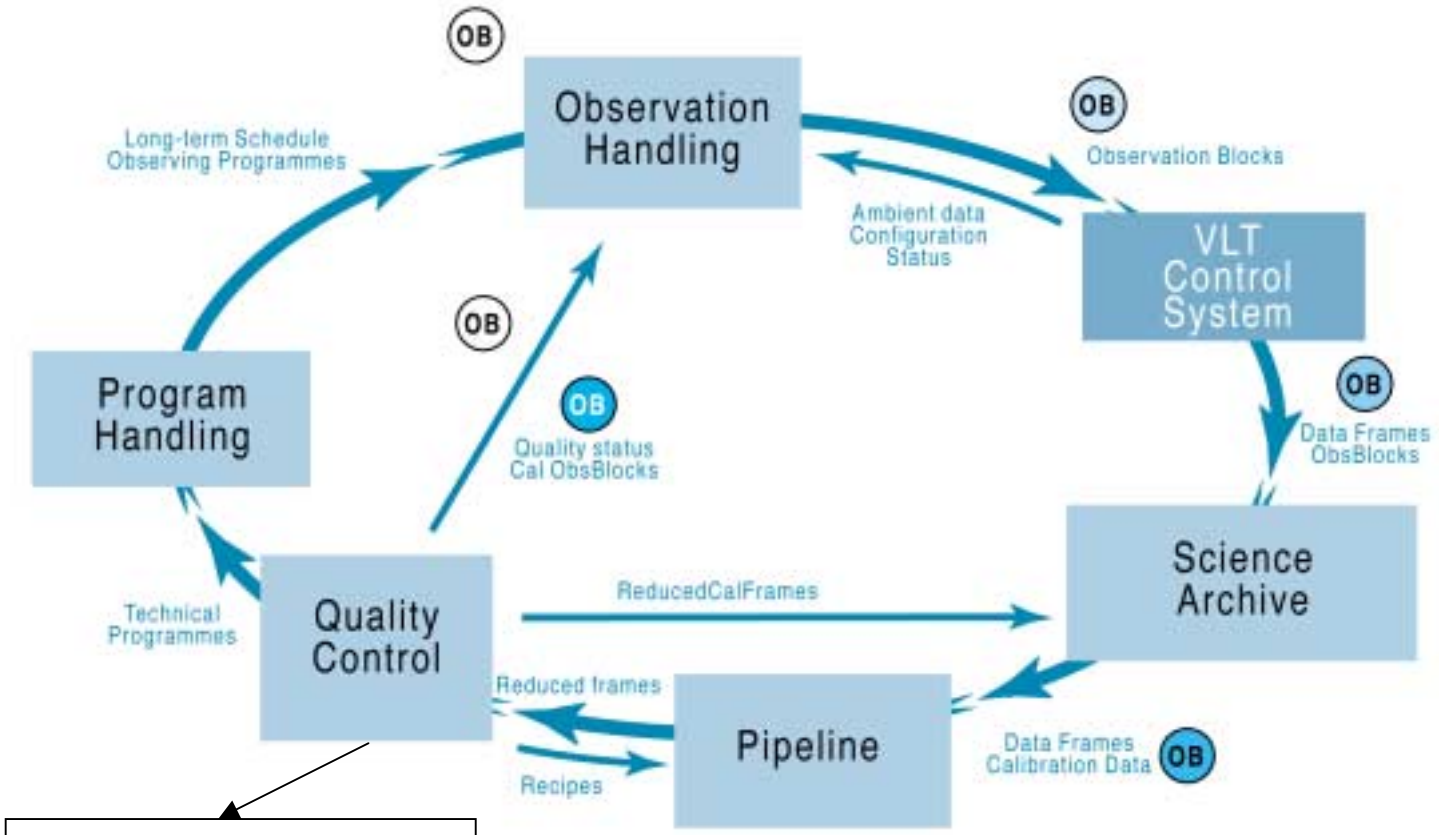
8 calibrators found

ASCII file format - the first column is the universal time

Comparative graphs for target (red) and 7 calibrators - Normalized Visibilities Correlated Magnitudes Target Altitudes Shadow

No.	Name	R.A. (h m s)	Dec. (d m s)	Ang. Dist. (deg°)	Ang. Diam. (mas)	Mag. K	Normalized Visibility ave ± err range	Correlated Magnitude ave ± err range	RiseTime SetTime RiseDuration	CulminationTime MaxAltitude graph=Targ&Sun	Shadowing
1 (0)	*Target*	6 45 8.9172	-16 42 58.0173	0.0000	6.00		0.48 ± 0.00 0.44-0.60 graph ascii	1.61 ± 0.00 1.80-1.11 graph ascii	23.50UT 32.00UT 8.50hrs	26.75 UT max = 81° graph ascii	max = 13% graph ascii asciiDetailed
2 (33)	alfcmaa	6 45 8.9000	-16 42 58.0000	0.0001	5.60	-1.40	0.53 ± 0.02 0.49-0.64 graph ascii	1.37 ± 0.08 1.53-0.96 graph ascii	23.50UT 32.00UT 8.50hrs	26.75 UT max = 81° graph ascii	max = 13% graph ascii asciiDetailed
3 (38)	tetcma	6 54 11.4000	-12 2 19.0000	3.9828	4.13	0.70	0.72 ± 0.05 0.70-0.77 graph ascii	0.71 ± 0.14 0.78-0.57 graph ascii	23.50UT 32.00UT 8.50hrs	26.75 UT max = 77° graph ascii	max = 0% graph ascii asciiDetailed
4 (39)	delcma	7 8 23.5000	-26 23 35.5000	11.6658	3.29	0.40	0.82 ± 0.05 0.80-0.90 graph ascii	0.43 ± 0.11 0.49-0.24 graph ascii	23.50UT 32.50UT 9.00hrs	27.00 UT max = 88° graph ascii	max = 21% graph ascii asciiDetailed
5 (43)	kcpup	7 33 48.0000	-14 31 26.0000	11.9177	5.60	0.10	0.53 ± 0.08 0.49-0.63 graph ascii	1.37 ± 0.31 1.53-1.02 graph ascii	23.50UT 32.75UT 9.25hrs	27.50 UT max = 79° graph ascii	max = 3% graph ascii asciiDetailed
6 (33)	dellep	5 51 19.3000	-20 52 44.7000	13.4098	2.57	1.37	0.89 ± 0.00 0.87-0.93 graph ascii	0.26 ± 0.01 0.29-0.17 graph ascii	23.50UT 31.25UT 7.75hrs	25.75 UT max = 86° graph ascii	max = 44% graph ascii asciiDetailed
7 (44)	6pup	7 49 41.2000	-17 13 42.3000	15.5741	1.83	2.24	0.94 ± 0.00 0.93-0.96 graph ascii	0.13 ± 0.01 0.15-0.10 graph ascii	23.50UT 33.00UT 9.50hrs	27.75 UT max = 82° graph ascii	max = 6% graph ascii asciiDetailed
8 (43)	hr3014	7 46 2.1900	-6 46 21.0000	18.0227	1.78	2.43	0.95 ± 0.00 0.94-0.95 graph ascii	0.12 ± 0.00 0.14-0.11 graph ascii	23.50UT 32.75UT 9.25hrs	27.75 UT max = 72° graph ascii	max = 0% graph ascii asciiDetailed
9 (44)	1pup	7 43 32.4000	-28 24 39.0000	18.2997	3.80	0.80	0.77 ± 0.05 0.74-0.88 graph ascii	0.57 ± 0.12 0.66-0.29 graph ascii	23.50UT 33.25UT 9.75hrs	27.75 UT max = 85° graph ascii	max = 44% graph ascii asciiDetailed

QC Log files



from P. Ballester

QC Log and reduced FITS files

- Produced by the pipeline
- Updated several times
- Contain technical, atmospheric, scientific data
- Used to produce
  - a full database of VLTI observations
  - a database of calibrators observations
- Provide a quick look at the data

QC Log files : contents

- Two different categories :
  - Scientific objects (CATG : SCIENCE)
  - Calibrator objects (CATG : CALIB)
- Common entries
  - Technical data : file IDs, date, telescopes station, baseline, instrument mode, OPD rate, number of scans recorded …
  - Atmospheric data : seeing …
  - Scientific data : target name, wavelength, category, SNR in photometric channels, uncalibrated Visibilities, number of scans processed

QC Log files : CALIB

- 15:02:28>-START GROUP / Start [VINCI]
- 15:02:28> ARCFILE = VINCI.2001-11-02T04:33:21.353.fits / Archive file name [VINCI]
- 15:02:29> NFRAMES = 0641 / Number of frames per scan [VINCI]
- 15:02:29> PI-COI NAME = UNKNOWN / PI-COI Name [VINCI]
- 15:02:29> PI-COI ID = 52020 / PI-COI Internal ESO ID [VINCI]
- 15:02:29> BASELINE UVW1 = -6.02485E+01 / 3 components of UVW vector [VINCI]
- 15:02:29> BASELINE UVW2 = -4.45506E+01 / 3 components of UVW vector [VINCI]
- 15:02:29> BASELINE UVW3 = 6.98430E+01 / 3 components of UVW vector [VINCI]
- 15:02:29> BASELINE LENGTH = 7.49309E+01 / Projected baseline length [VINCI]
- 15:02:29> SEEING START = 7.70000E-01 / Observatory seeing (arcsec) [VINCI]
- 15:02:29> SEEING END = 6.90000E-01 / Observatory seeing (arcsec) [VINCI]
- 15:02:29> INSTRUMENT MODE = undispersed / Instrument mode (undispersed, dispersed, etc..) [VINCI]
- 15:02:29> FRINGE RATE = 676.8 / Fringe rate [VINCI]
- 15:02:29> NSCANS = 58 / Number of scans [VINCI]
- 15:02:29> BAND = K / Spectral band (K, ..) [VINCI]
- 15:02:29> TELESCOPE = ESO-VLTI-U13 / Telescope [VINCI]
- 15:02:30> STATION1 = U3 / Baseline [VINCI]
- 15:02:30> STATION2 = U1 / Baseline [VINCI]
- 15:02:30> OBSERVER = UNKNOWN / Observer name [VINCI]
- 15:02:30> OB NAME = HR_8685-Cal1-Fomalhaut / OB name [VINCI]
- 15:02:30> DATE OBS = 2001-11-02T04:33:21.3527 / Observation date [VINCI]
- 15:02:30> DATE PIPE = Thu Dec 19 14:25:00 2002 / Pipeline processing date [VINCI]
- 15:02:30> TARGET NAME = hr8685 / Target name [VINCI]
- 15:02:30> MU12 = 0.366124 / Squared coherence factor mu12,mu22 [VINCI]
- 15:02:30> DMU12 = 0.011630 / Variance of squared coh. factor mu12,mu22 [VINCI]
- 15:02:30> MU22 = 0.389177 / Squared coherence factor mu12,mu22 [VINCI]
- 15:02:30> DMU22 = 0.011639 / Variance of squared coh. factor mu12,mu22 [VINCI]
- 15:02:30> OPD RATE = 30.2 / OPD rate in micron/sec [VINCI]
- 15:02:30> RA = 342.759000 / Right Ascension [VINCI]
- 15:02:30> DEC = -39.156833 / Declination [VINCI]
- 15:02:31> EQUINOX = 2000. / Equinox [VINCI]
- 15:02:31> SNRPA = 1.5 / Signal to noise ratio on PA [VINCI]
- 15:02:31> SNRPB = 1.2 / Signal to noise ratio on PB [VINCI]
- 15:02:31> CATG = CALIB / DO category of the file [VINCI]
- 15:02:31> READMODE = beam1x1 / Detector readout mode [VINCI]
- 15:02:31> SCANS PROCESSED = 58 / Number of scans processed [VINCI]
- 15:02:31> SCANS REJECTED = 42 / Number of scans rejected [VINCI]
- 15:02:31> TRANSFER MATRIX11 = 1.094701572 / Elements of the transfer matrix [VINCI]
- 15:02:31> TRANSFER MATRIX12 = 0.529447189 / Elements of the transfer matrix [VINCI]
- 15:02:31> TRANSFER MATRIX21 = 0.830451318 / Elements of the transfer matrix [VINCI]
- 15:02:31> TRANSFER MATRIX22 = 0.670839793 / Elements of the transfer matrix [VINCI]
- 15:02:31> CALIB DISTANCE = 1.69967E-04 / Calibrator radial distance in degrees [VINCI]
- 15:02:31> BASELINE UVW1 = -6.02485E+01 / 3 components of UVW vector [VINCI]
- 15:02:31> BASELINE UVW2 = -4.45506E+01 / 3 components of UVW vector [VINCI]
- 15:02:32> BASELINE UVW3 = 6.98430E+01 / 3 components of UVW vector [VINCI]
- 15:02:32> BASELINE LENGTH = 7.49309E+01 / Projected baseline length [VINCI]
- 15:02:32> SEEING START = 7.70000E-01 / Observatory seeing (arcsec) [VINCI]
- 15:02:32> SEEING END = 6.90000E-01 / Observatory seeing (arcsec) [VINCI]
- 15:02:32> CALIB NAME = hr8685 / Name of the calibrator entry [VINCI]
- 15:02:32> CALIB DIAMETER = 2.01 / Calibrator diameter in milliarcsec [VINCI]
- 15:02:32> CALIB DIAM ERR = 0.02 / Error on Calibrator diameter in milliarcsec [VINCI]
- 15:02:32> CALIB POSITION = 0134 / Position of the calibrator entry [VINCI]
- 15:02:32> CALIB VISIBILITY = 0.757103 / Calibrator estimated square visibility [VINCI]
- 15:02:32> CALIB VISIB ERR = 0.004306 / Variance of calibrator estimated square visibility [VINCI]
- 15:02:32> T1 = 0.48358557 / Measured transfer function (ratio of square visibilities) [VINCI]
- 15:02:32> DT1 = 0.01811128 / Error on measured transfer function [VINCI]
- 15:02:32> T2 = 0.51403454 / Measured transfer function (ratio of square visibilities) [VINCI]
- 15:02:32> DT2 = 0.01829632 / Error on measured transfer function [VINCI]
- 15:02:32> COT1 = 2.06788634 / Inverse transfer function [VINCI]
- 15:02:33> COT2 = 1.94539456 / Inverse transfer function [VINCI]
- 15:02:33>-STOP GROUP / Stop [VINCI]

15:02:31> CATG = CALIB / DO category of the file [VINCI]
15:02:31> CALIB DISTANCE = 1.69967E-04 / Calibrator radial distance in degrees [VINCI]
15:02:32> CALIB NAME = hr8685 / Name of the calibrator entry [VINCI]
15:02:32> CALIB DIAMETER = 2.01 / Calibrator diameter in milliarcsec [VINCI]
15:02:32> CALIB DIAM ERR = 0.02 / Error on Calibrator diameter in milliarcsec [VINCI]
15:02:32> CALIB POSITION = 0134 / Position of the calibrator entry [VINCI]
15:02:32> CALIB VISIBILITY = 0.757103 / Calibrator estimated square visibility [VINCI]
15:02:32> CALIB VISIB ERR = 0.004306 / Variance of calibrator estimated square visibility [VINCI]
15:02:32> T1 = 0.48358557 / Measured transfer function (ratio of square visibilities) [VINCI]
15:02:32> DT1 = 0.01811128 / Error on measured transfer function [VINCI]
15:02:32> T2 = 0.51403454 / Measured transfer function (ratio of square visibilities) [VINCI]
15:02:32> DT2 = 0.01829632 / Error on measured transfer function [VINCI]
15:02:32> COT1 = 2.06788634 / Inverse transfer function [VINCI]
15:02:33> COT2 = 1.94539456 / Inverse transfer function [VINCI]

QC Log files : SCIENCE

- 15:02:50>-START GROUP / Start [VINCI]
- 15:02:50> ARCFILE = VINCI.2001-11-02T05:17:24.356.fits / Archive file name [VINCI]
- 15:02:50> NFRAMES = 0641 / Number of frames per scan [VINCI]
- 15:02:50> PI-COI NAME = UNKNOWN / PI-COI Name [VINCI]
- 15:02:50> PI-COI ID = 52020 / PI-COI Internal ESO ID [VINCI]
- 15:02:50> BASELINE UVW1 = -6.43695E+01 / 3 components of UVW vector [VINCI]
- 15:02:50> BASELINE UVW2 = -6.35874E+01 / 3 components of UVW vector [VINCI]
- 15:02:50> BASELINE UVW3 = 4.80196E+01 / 3 components of UVW vector [VINCI]
- 15:02:50> BASELINE LENGTH = 9.04809E+01 / Projected baseline length [VINCI]
- 15:02:51> SEEING START = 6.60000E-01 / Observatory seeing (arcsec) [VINCI]
- 15:02:51> SEEING END = 6.00000E-01 / Observatory seeing (arcsec) [VINCI]
- 15:02:51> INSTRUMENT MODE = undispersed / Instrument mode (undispersed, dispersed, etc..) [VINCI]
- 15:02:51> FRINGE RATE = 676.8 / Fringe rate [VINCI]
- 15:02:51> NSCANS = 67 / Number of scans [VINCI]
- 15:02:51> BAND = K / Spectral band (K, ..) [VINCI]
- 15:02:51> TELESCOPE = ESO-VLTI-U13 / Telescope [VINCI]
- 15:02:51> STATION1 = U3 / Baseline [VINCI]
- 15:02:51> STATION2 = U1 / Baseline [VINCI]
- 15:02:51> OBSERVER = UNKNOWN / Observer name [VINCI]
- 15:02:51> OB NAME = UT-Star-Psi_Phe / OB name [VINCI]
- 15:02:51> DATE OBS = 2001-11-02T05:17:24.3561 / Observation date [VINCI]
- 15:02:51> DATE PIPE = Thu Dec 19 14:29:17 2002 / Pipeline processing date [VINCI]
- 15:02:51> TARGET NAME = psiphe / Target name [VINCI]
- 15:02:52> MU12 = 0.009859 / Squared coherence factor mu12,mu22 [VINCI]
- 15:02:52> DMU12 = 0.001251 / Variance of squared coh. factor mu12,mu22 [VINCI]
- 15:02:52> MU22 = 0.008778 / Squared coherence factor mu12,mu22 [VINCI]
- 15:02:52> DMU22 = 0.000868 / Variance of squared coh. factor mu12,mu22 [VINCI]
- 15:02:52> OPD RATE = 24.8 / OPD rate in micron/sec [VINCI]
- 15:02:52> RA = 28.411417 / Right Ascension [VINCI]
- 15:02:52> DEC = -46.302667 / Declination [VINCI]
- 15:02:52> EQUINOX = 2000. / Equinox [VINCI]
- 15:02:52> SNRPA = 1.2 / Signal to noise ratio on PA [VINCI]
- 15:02:52> SNRPB = 0.9 / Signal to noise ratio on PB [VINCI]
- 15:02:52> CATG = SCIENCE / DO category of the file [VINCI]
- 15:02:52> READMODE = beam1x1 / Detector readout mode [VINCI]
- 15:02:52> SCANS PROCESSED = 69 / Number of scans processed [VINCI]
- 15:02:52> SCANS REJECTED = 31 / Number of scans rejected [VINCI]
- 15:02:53> TRANSFER MATRIX11 = 1.081983799 / Elements of the transfer matrix [VINCI]
- 15:02:53> TRANSFER MATRIX12 = 0.510874186 / Elements of the transfer matrix [VINCI]
- 15:02:53> TRANSFER MATRIX21 = 0.812700115 / Elements of the transfer matrix [VINCI]
- 15:02:53> TRANSFER MATRIX22 = 0.634042412 / Elements of the transfer matrix [VINCI]
- 15:02:53> CALIB DISTANCE = 2.56649E+00 / Calibrator radial distance in degrees [VINCI]
- 15:02:53> V0 = 0.02017487 / Calibrated square visibility [VINCI]
- 15:02:53> DV0 = 0.00278209 / Variance of calibrated square visibility [VINCI]
- 15:02:53> V1 = 0.02226746 / Calibrated square visibility [VINCI]
- 15:02:53> DV1 = 0.00360747 / Variance of calibrated square visibility [VINCI]
- 15:02:53> V2 = 0.01877524 / Calibrated square visibility [VINCI]
- 15:02:53> DV2 = 0.00241285 / Variance of calibrated square visibility [VINCI]
- 15:02:53> AT1 = 0.44275362 / Applied transfer function [VINCI]
- 15:02:53> DAT1 = 0.01554829 / Error on applied transfer function [VINCI]
- 15:02:53> AT2 = 0.46753053 / Applied transfer function [VINCI]
- 15:02:54> DAT2 = 0.01385229 / Error on applied transfer function [VINCI]
- 15:02:54>-STOP GROUP / Stop [VINCI]

15:02:52> CATG = SCIENCE / DO category of the file [VINCI]
15:02:53> CALIB DISTANCE = 2.56649E+00 / Calibrator radial distance in degrees [VINCI]
15:02:53> V0 = 0.02017487 / Calibrated square visibility [VINCI]
15:02:53> DV0 = 0.00278209 / Variance of calibrated square visibility [VINCI]
15:02:53> V1 = 0.02226746 / Calibrated square visibility [VINCI]
15:02:53> DV1 = 0.00360747 / Variance of calibrated square visibility [VINCI]
15:02:53> V2 = 0.01877524 / Calibrated square visibility [VINCI]
15:02:53> DV2 = 0.00241285 / Variance of calibrated square visibility [VINCI]
15:02:53> AT1 = 0.44275362 / Applied transfer function [VINCI]
15:02:53> DAT1 = 0.01554829 / Error on applied transfer function [VINCI]
15:02:53> AT2 = 0.46753053 / Applied transfer function [VINCI]
15:02:54> DAT2 = 0.01385229 / Error on applied transfer function [VINCI]

Use of the QC log file

- Create a full database of processed VLTI observations (science and calibrator objects)

  Statistics on the observations

- select calibrator observations for the VLTI calibrator program for further analysis by an off-line software (IDL)

  VLTI Calibrators Program

- Provide a quick look at the quality of the data

  Quality Control product – Instrument monitoring

VLTI Public Data Releases

001. Data Release January 2002

002. Data Release March 2002

003. Data Release July 2002

004. VINCI/MONA Data Release September 2002

005. VINCI/IONIC Data Release September 2002

006. Data Release November 2002

007. Data Release February 2003

008. Data Release May 2003

http://http.hq.eso.org/projects/vlti/

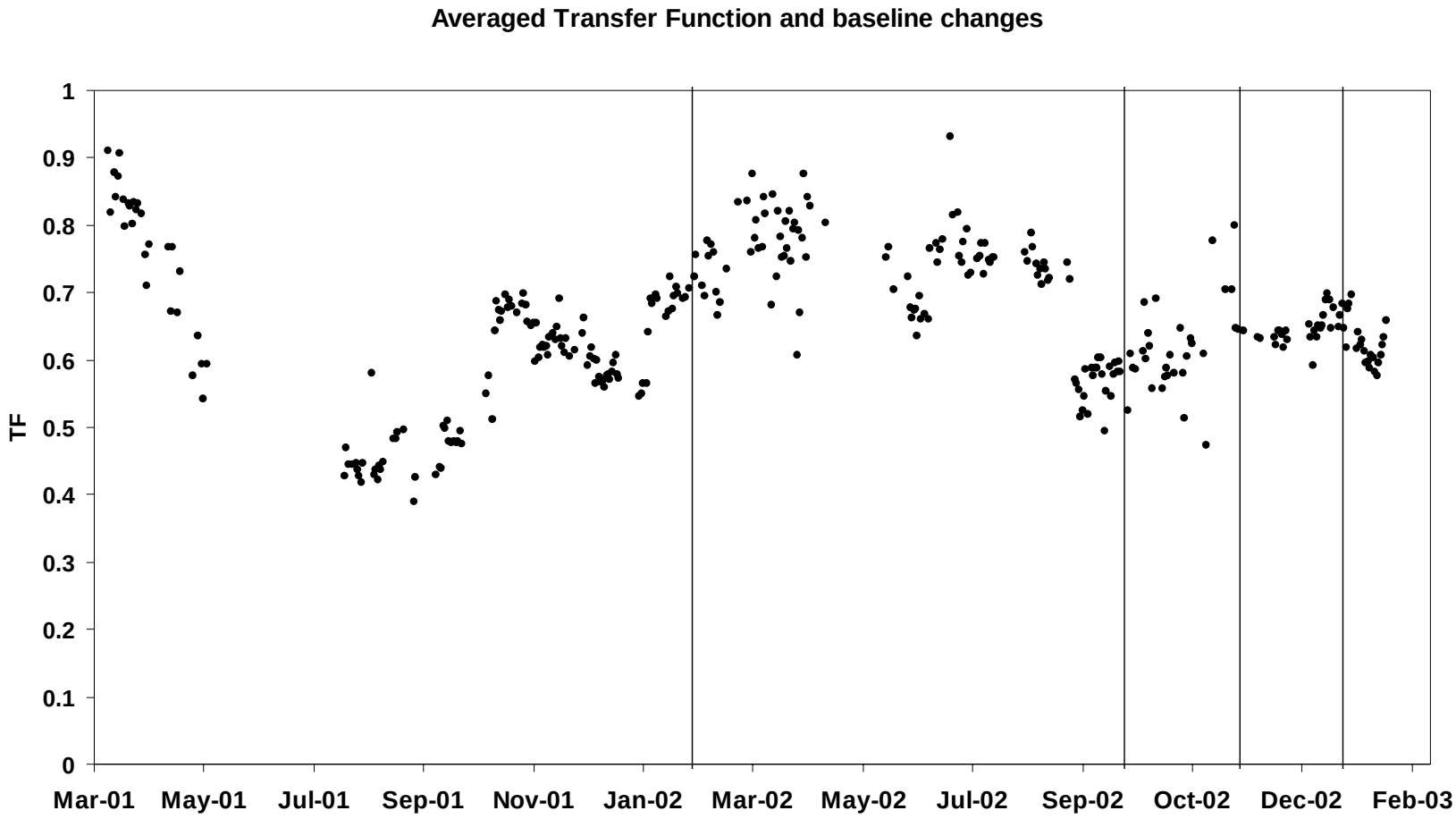
VLTI database

from March 2001 (first fringes) to April 2003

- Number of reduced nights : 373
- Number of objects observed : 222
- Number of calibrators observed : 115
- Number of Observation Blocks : 8045 (71% on calibrators)

baseline	**E0-G0**	**E0-G1**	**U1-U3**	**U1-U2**	**U1-U4**	**U2-U3**	**U2-U4**	**B3-M0**	**B3-C3**	**B3-D1**
	16m	66m	102m	57m	130m	47m	89m	140m	8m	24m
nights	127	130	15	1	1	2	2	41	29	24
objects	96	104	41	2	3	6	7	28	68	14
calibrators	38	79	(20)	(2)	(2)	(4)	(5)	18	45	7

QC Log files : VLTI Calibrators Averaged TF



VLTI Quality control

Like with the other VLT instruments a Data Flow Operations system is setup to look into the performance of the VLTI instruments and to check the quality of the data.

The work flow includes :

- data management (retrieval of the archived data, organization of the VLTI data, packaging of the data for distribution)
- quality control of the VLTI data stream
- instrument trending : monitoring of the performances of the VLTI instruments (short and long term)